



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,948	04/04/2002	Hideo Matsuoka	1098-02	8953

35811 7590 05/17/2006

IP GROUP OF DLA PIPER RUDNICK GRAY CARY US LLP
1650 MARKET ST
SUITE 4900
PHILADELPHIA, PA 19103

EXAMINER

PENG, KUO LIANG

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary

Application No.

10/089,948

Applicant(s)

MATSUOKA ET AL.

Examiner

Kuo-Liang Peng

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/27/06 Amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17,18,20-31,41 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17,18,20-31,41 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Applicants' amendment filed on February 27, 2006 was received. Claims 1-16, 19 and 32-40 are deleted. Claims 17 and 20 are amended. Claims 41-42 are added. Now, Claims 17-18, 20-31 and 41-42 are pending.
2. Claim rejection(s) under 35 USC 103 in paragraph 5 of the previous Office Action (Paper No. 102905) is/are removed.
3. The text of those sections of Title 35, U.S. code not included in this action can be found in prior Office Actions.

Claim Rejections - 35 USC § 112

4. Claims 17-18, 20-31 and 41-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 17 (line 3) and 20 (line 3), "a selected melt viscosity ratio" renders the instant claim indefiniteness because it does not particularly point out

Art Unit: 1712

the **essential** element, such as the **working range** of the “selected melt viscosity ratio”.

Claims 41-42 recite the limitation "selected relative viscosity" in lines 1-2 of these claims. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. Rejection of Claims 17-18 and 20 under 35 U.S.C. 102(b) as being anticipated by Akhtar (Polymer Engineering and Science, 32(10) 690-698 (1992)) is maintained because the rejection is adequately set forth in paragraph 6 of Paper No. 102905. Applicant's arguments have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

For Applicants' argument (Remarks, page 15, 3rd paragraph), Akhtar discloses a thermoplastic resin structure (i.e., dumbbell-shaped specimen)(page 692, left column) derived from a resin composition comprising a PPS and polyamides with various relative amounts of the two components (page 694 and Table 2) Since the relative amounts of the polyphenylene sulfide and the polyamide can fall within the range set forth in the instant claims and Akhtar polymers are those typical commercially available ones, Examiner has a reasonable

Art Unit: 1712

basis to believe that Akhtar's blend inherently has the same properties as those of Applicants', including morphologies. Especially, the instant claims do not recite any **critical** range of the **melt viscosity ratio** in order to be distinguished from the prior art **and** showing the prior does not teach this critical range. Since PTO does not have proper means to conduct experiments, the burden of proof is now shifted to Applicants to show otherwise. *In re Best*, 195 USPQ 430 (CCPA 1977).

Applicants particularly point out that in the 50/50 blend, it seems that the N6 phase is perhaps on the verge of becoming a continuous phase. However, although the N6 phase might be on the verge of becoming a continuous phase, it still a dispersed phase. Applicants further alleged that the shear viscosity of Akhtar's polyamides is similar to that of Applicants' Comparative Examples 2 and 4. However, this is not persuasive because Akhtar's N6 has a **shear viscosity** of 82 Pa.s (Table 1), while Applicants' polyamide in Comparative Examples 2 and 4 has a **relative viscosity** of 2.80. It appears that a shear viscosity is not a relative viscosity. They cannot be directly compared.

6. Rejection of Claims 17-18 and 20-24 under 35 U.S.C. 102(b) as being anticipated by Selby (US 4 528 335) is maintained because the rejection is adequately set forth in paragraph 7 of Paper No. 102905. Applicant's arguments

Art Unit: 1712

have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

For Applicants' argument (page 15, last paragraph bridging to page 16, 1st paragraph), Applicants primarily argue that Selby's amount of polymer is clearly different because Selby's polyamide can be present in an amount of 0.1 to about 100 parts by weight per 100 parts poly(arylene sulfide). However, this is not persuasive because as indicated in Akhtar, the specific gravity of a PPS is about 1.4 (page 690, right column) and that of a polyamide can be as low as about 1.0 (Table 1). Therefore, in terms of volume fraction, Selby's polyamide can be present in amount of **about 56%** and PPS can be in an amount of **about 44%**.

7. Rejection of Claims 17-18 and 20-21 under 35 U.S.C. 102(b) as being anticipated by Takagi (JP 05-185425) is maintained because the rejection is adequately set forth in paragraph 8 of Paper No. 102905. Applicant's arguments have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

Takagi discloses a thermoplastic resin structure formed of a resin composition comprising polyphenylene sulfide (PPS) and polyamide with various relative amounts of the two components. Different morphologies can be obtained

by blending the two components in the atmosphere or under reduced pressure. (col. 2, lines 3-22, col. 4, lines 11-13 and Examples). Inorganic filler can be added (col. 2, lines 3-22). Since the relative amounts of the polyphenylene sulfide and the polyamide can fall within the range set forth in the instant claims and Takagi's polymers are those typical commercially available ones, Examiner has a reasonable basis to believe that Takagi's blend inherently has the same properties as those of Applicants', including morphologies. Especially, the instant claims do not recite any **critical** range of the **melt viscosity ratio** in order to be distinguished from the prior art **and** showing the prior does not teach this critical range. Since PTO does not have proper means to conduct experiments, the burden of proof is now shifted to Applicants to show otherwise. *In re Best*, 195 USPQ 430 (CCPA 1977).

8. Rejection of Claims 17-18 and 20-22 under 35 U.S.C. 102(b) as being anticipated by Ono (JP 02-222452) is maintained because the rejection is adequately set forth in paragraph 9 of Paper No. 102905. Applicant's arguments have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

Ono discloses a molding thermoplastic resin structure formed of a resin composition comprising a polyphenylene sulfide (PPS) and a thermoplastic resin

Art Unit: 1712

such as polyamide with various relative amounts of the two components. (page 3, lower left column to page 3, lower right column, page 4, upper two columns, Table 2 and Examples). The melt viscosity of the PPS is described in page 2, lower left column and Examples. Several commercially available polyamides are used in Examples. Notes that the relative amounts of the polyphenylene sulfide and the polyamide falls within the ranges of the instant claims and Ono's polymers are those typical commercially available ones. Especially, the instant claims do not recite any **critical** range of the **melt viscosity ratio** in order to be distinguished from the prior art **and** showing the prior does not teach this critical range.

Therefore, Examiner has a reasonable basis to believe that Ono's component (A) can possess the same morphologies as those of Applicants. Since PTO does not have proper means to conduct experiments, the burden of proof is now shifted to Applicants to show otherwise. *In re Best*, 195 USPQ 430 (CCPA 1977).

For Applicants' argument (Remarks, page 16, 3rd paragraph), it is noted that the term "comprising" in the instant claims does not exclude the possibility of the presence of additional components. Furthermore, for Ono's Comparative Examples, the argument above applies.

9. Rejection of Claims 17-8 and 20-22 under 35 U.S.C. 102(b) as being anticipated by Deguchi (JP 03-215556) is maintained because the rejection is adequately set forth in paragraph 10 of Paper No. 102905. Applicant's arguments have been fully considered but they are not persuasive. The focus argument related to the core patentability is discussed below.

Deguchi discloses a molding thermoplastic resin structure formed of a resin composition comprising a polyamide, a polyarylene sulfide and a layered silicate with various relative amounts of the two components. There is phase separation between the polyamide and the polyarylene sulfide. (page 2, lower left column, page 3, upper left column and lower right column, page 5, upper left column and Examples). The relative amounts of the polyarylene sulfide and the polyamide are described in page 3, upper left column. The **melt viscosity** of the polyarylene sulfide is described in page 3, lower left column. The molecular weight of the polyamide is described in page 3, upper right column. An inorganic filler can be used. (page 3, upper left column) Note that the **melt viscosity** of a polyamide is typically closely related the degree of polymerization thereof. Deguchi's compositions read on those of Applicants'. Therefore, Examiner has a reasonable basis to believe that Deguchi's composition inherently has the same properties as those of Applicants'. Since PTO does not have proper means to conduct

Art Unit: 1712

experiments, the burden of proof is now shifted to Applicants to show otherwise.

In re Best, 195 USPQ 430 (CCPA 1977).

For Applicants' argument (Remarks, page 16, 4th paragraph), as mentioned previously, Deguchi teaches polyamide/PPS blends with other blend ratios in addition to 50/50 (w/w) ratio. Even if when the blend ratio is 50/50 (w/w), the volume blend ratio should fall within the claimed range of the present invention upon considering the specific gravities of the polymers, *supra*.

9. Rejection of Claims 21-31 under 35 USC 103(a) is maintained because the rejection is adequately set forth in paragraphs 11 to 22 of Paper No. 102905.

Applicants primarily argue that the rejections under 35 USC 102(b) in the previous Office action cannot sustain. However, this is not persuasive, *supra*.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this

Art Unit: 1712


final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

Art Unit: 1712

access to the Private PAIR system, contact the Electronic Business Center (EBC)
at 866-217-9197 (toll-free).

klp
May 12, 2006


Kuo-Liang Peng
Primary Examiner
Art Unit 1712